SERVICE MANUAL SUPPLEMENT

STEREO DOUBLE CASSETTE DECK

FISHER

CR-W223R
(EUROPE)

142 459 20

This service manual is prepared for Model CR-W223R. As only the components in the chart below differ, refer to the service manual CR-W223 (WM-17166) for other components.

Ref. No.	CR-W223	CR-W223R	Description	Q'ty
	PACKAGE			
	141-6-1419-90100	141-6-1419-90104	Individual Carton	1
	ACCESSORIES			
	142-6-4119-33039	142-6-4119-33411	Instruction Booklet	1
	CABINET			
	– – – – –	141-2-1419-20440	Rating Plate	1
11	141-0-1129-24000	141-0-1129-24005	Cabinet Front Assy	1
34	⚠ 4-2369-75920	⚠ 4-2369-76840	Plug Cord Power	1
	MECHANISM			
9	4-2429-73170	4-2429-73171	Record/Play Head [HD2]	1

Add this sheet to Model CR-W223 Service Manual (WM-17166).

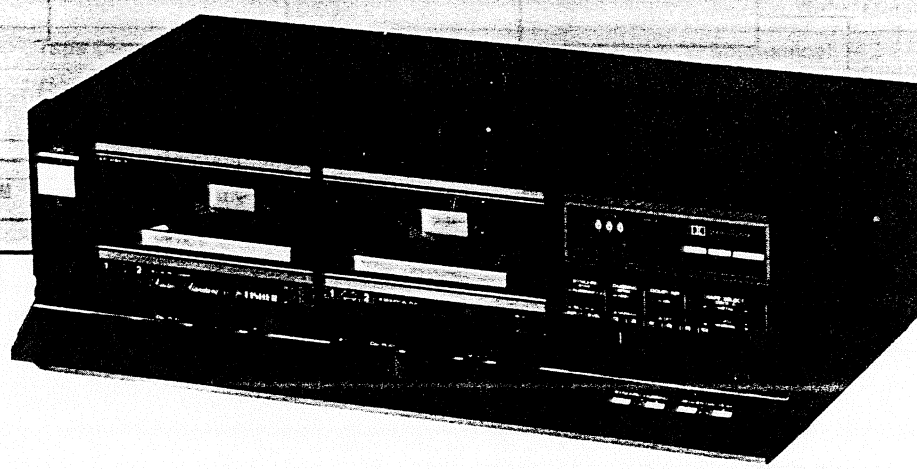
SERVICE MANUAL

FISHER

CR-W223

Stereo Double Cassette Deck

(EUROPE)



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WM-17166

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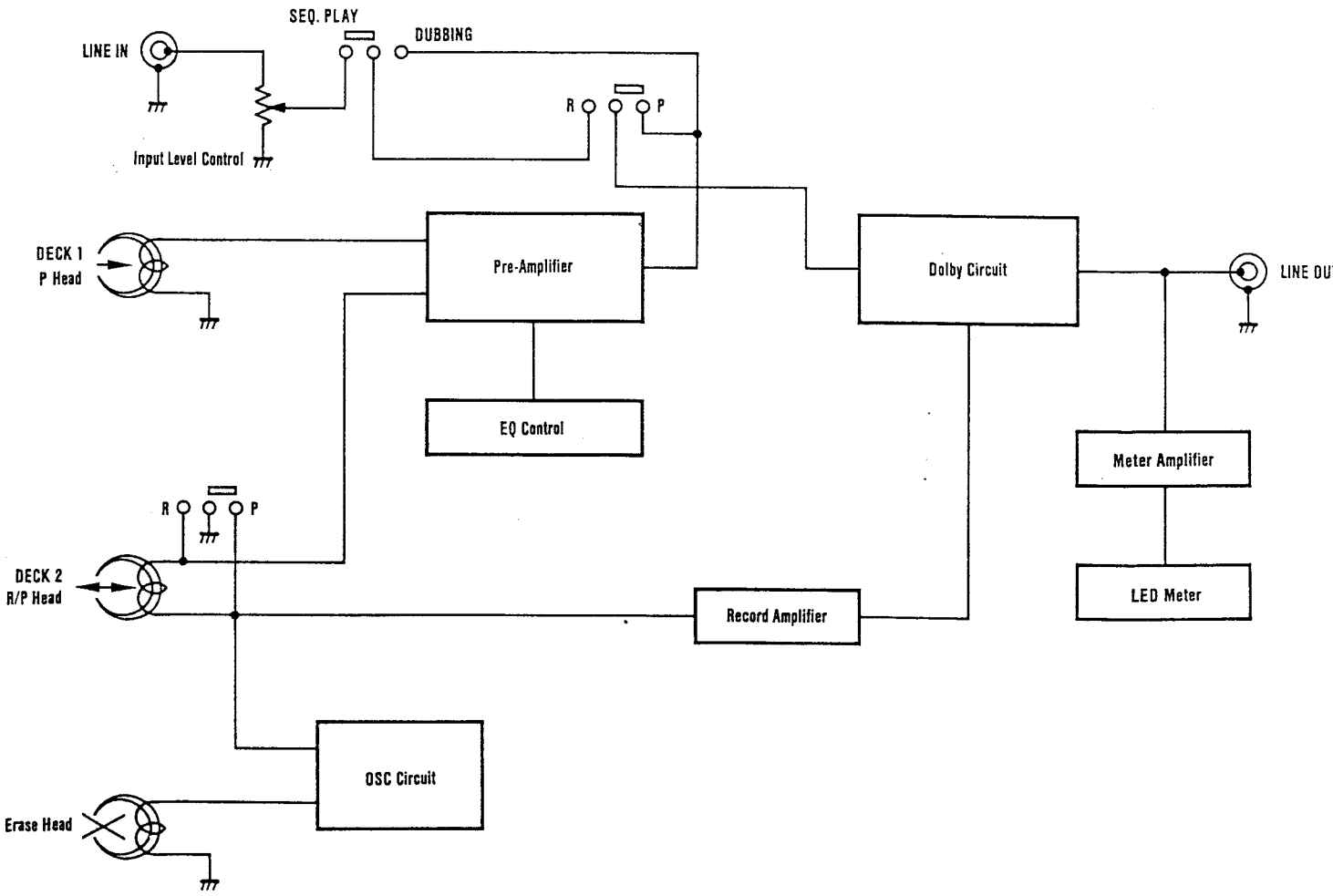
FUNCTIONAL BLOCK DIAGRAM



SPECIFICATIONS

CASSETTE DECK	CR-W223
Motor	(2) DC Governor
Cassette Loading	(2) Front
Drive System	(2) Capstan
Number of Heads	3
Head Material	Hard Permalloy / Ferrite
Operation	(2) Mechanical
Dubbing	Normal / High Speed
Wow & Flutter	0.08 % WRMS
Signal-to-Noise Ratio (CCIR Weighted)	
Dolby Off	50 dB
Dolby On B	60 dB
Erase Ratio	70 dB
Channel Separation	40 dB
Signal Crosstalk	70 dB
Frequency Response 1-7/8 IPS	
Normal Tape (±3 dB)	50 Hz – 13 kHz
CrO_2 Equivalent Tape (±3 dB)	50 Hz – 14 kHz
Metal Tape (±3 dB)	50 Hz – 15 kHz
Total Harmonic Distortion at 0 VU	1.5 %
Fast Forward / Rewind Time (C-60)	110 sec.
Level Indicators	L.E.D. Meter
Input (Sensitivity / Impedance)	(2) Line 100 mV / 50 kΩ
Output (Level at 0 VU / Impedance)	(2) Line 500 mV / 2.2 kΩ
Tape Selecter Switch	
DECK 1:	Auto Tape Selector
DECK 2:	Normal, CrO_2, Metal
Tape Counter	Mechanical
GENERAL	
Power Requirements	AC 16 V (50 Hz)
Power Consumption	10 Watts
Dimensions (W x H x D)	400 x 135 x 217 mm
Weight (approx.)	2.5 kg

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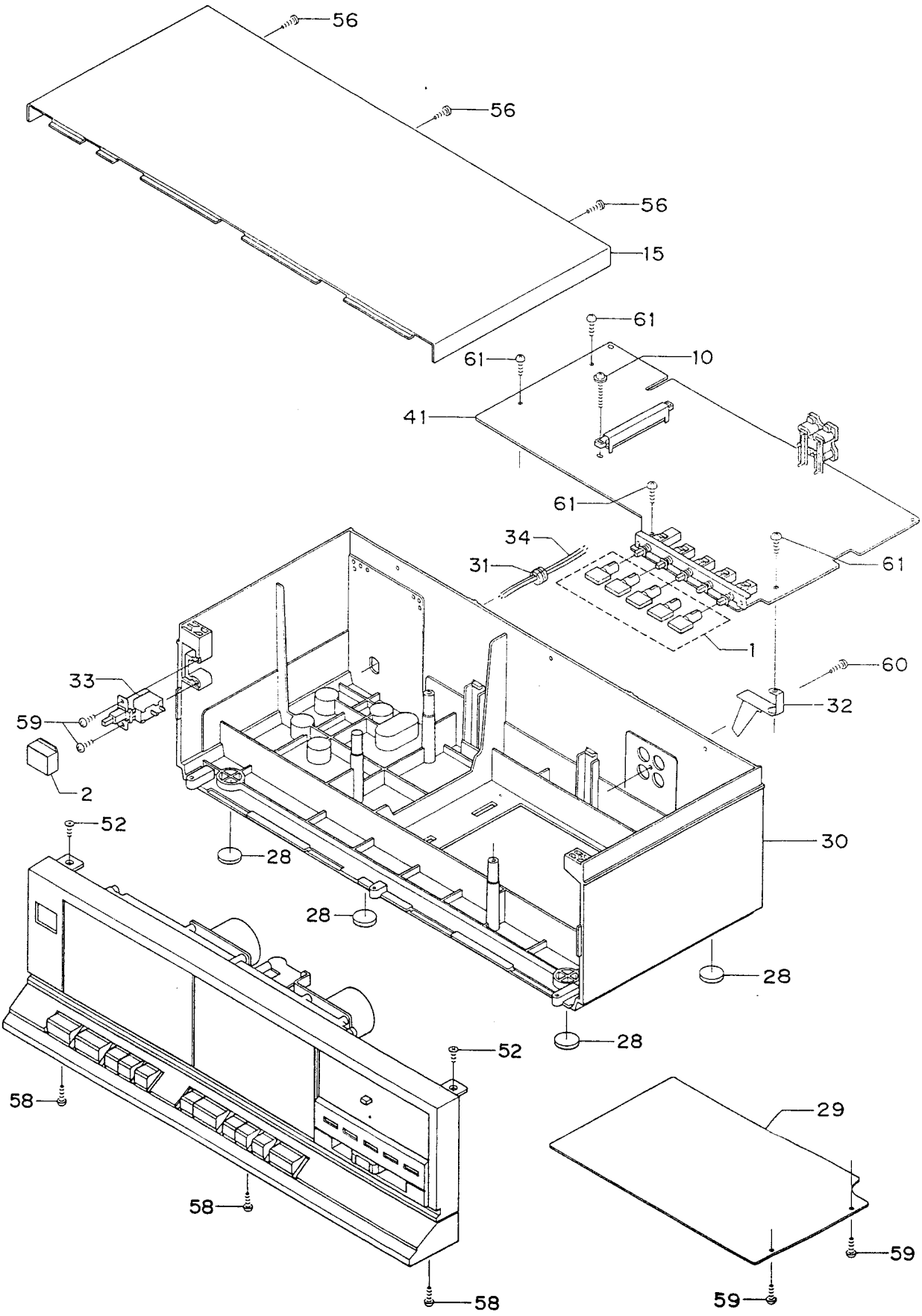
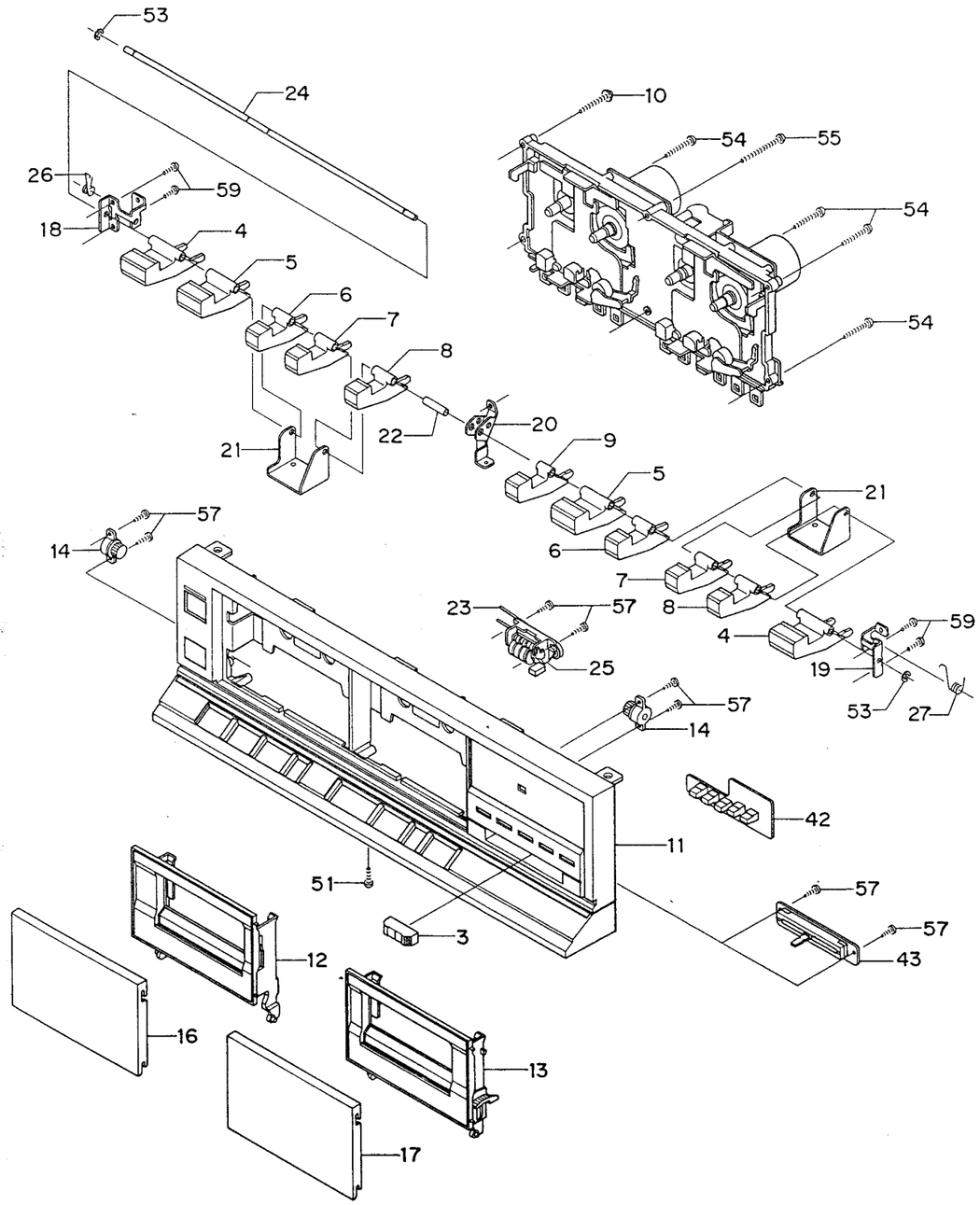
CABINET & CHASSIS EXPLODED VIEW



CABINET & CHASSIS EXPLODED VIEW (Continued)



CABINET & CHASSIS PARTS LIST

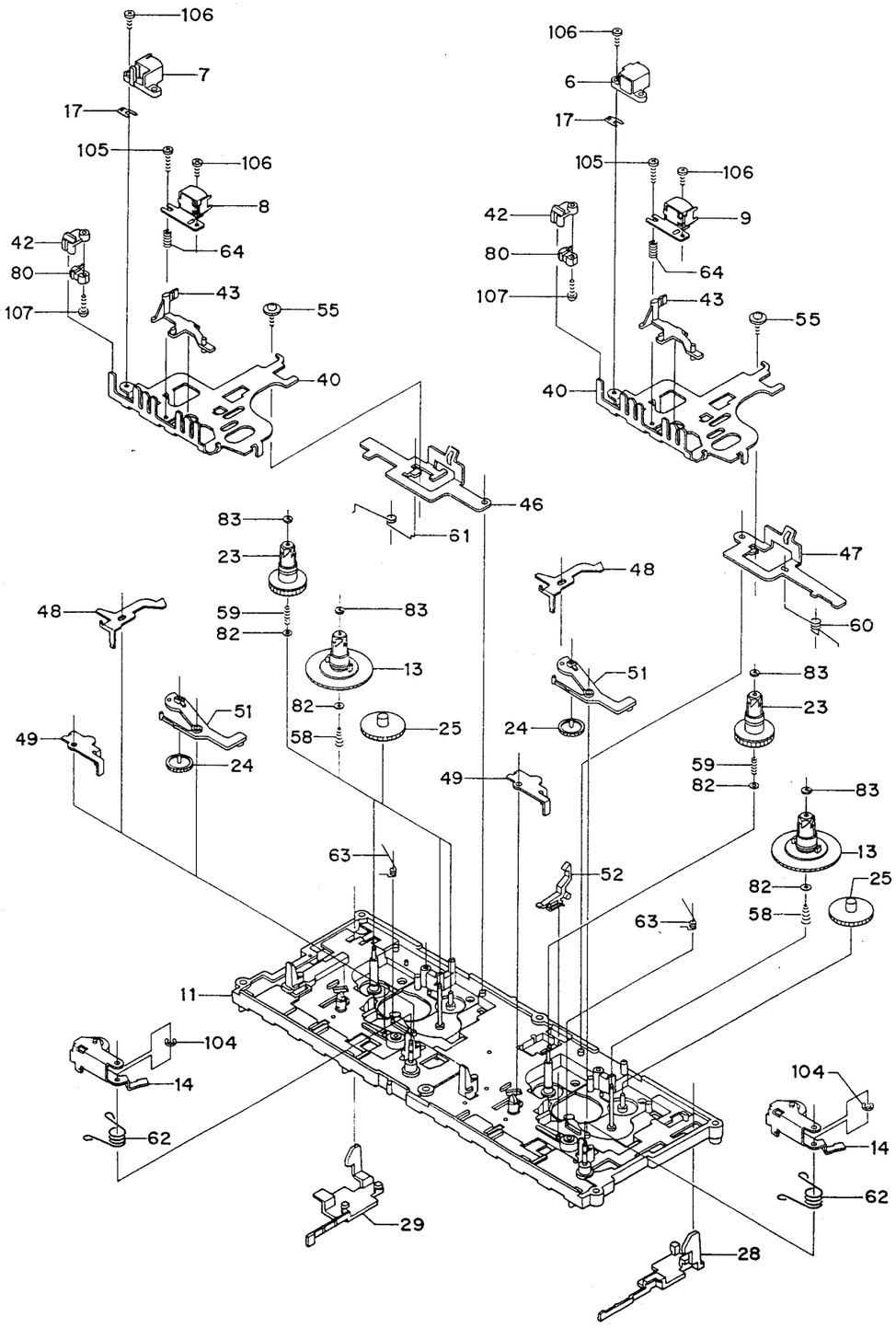
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

Ref. No.	Part No.	Description	Q'ty
	PACKAGE		
	131-6-3069-16350	Patching Sheet	1
	141-6-1419-90100	Individual Carton	1
	141-6-1469-17100	Pad Left	1
	141-6-1469-17200	Pad Right	1
	141-6-2519-22390	Sheet Polyethylene	1
	141-6-4559-03300	Serial NO Sheet	1
	141-6-4559-03300	Serial NO Sheet	1
	ACCESSORY		
	131-0-4004-15200	Wire Shield Assy	1
	131-0-4004-15201	Wire Shield Assy	1
	131-2-7103-51200	Label	2
	131-6-2719-10401	BAG FAN	1
	142-6-4119-33039	Instruction Booklet	1
	CABINET		
	141-2-4729-07100	Wire Band	6
1	131-2-1601-70103	Knob	5
2	131-2-1601-86200	Knob	1
3	131-2-1601-86502	Knob (Volume)	1
4	141-2-1659-61500	Knob (Eject)	2
5	141-2-1659-61600	Knob (Play)	2
6	141-2-1659-61700	Knob (Rew)	2
7	141-2-1659-61800	Knob(F.F)	2
8	141-2-1659-61900	Knob(Pause)	2
9	141-2-1659-62200	Knob (Rec)	1
10	131-2-4201-30600	Screw	2
11	141-0-1129-24000	Cabinet Front Assy	1
12	141-0-1249-43400	Lid Cassette Assy L	1
13	141-0-1249-43500	Lid Cassette Assy R	1
14	141-0-5519-07903	Gear Eject Assy	2
15	141-2-1129-15100	Cover	1
16	141-2-1319-51300	Clear Lid Cassette Left	1
17	141-2-1319-51301	Clear Lid Cassette Right	1
18	141-2-2629-08900	Bracet Button Left	1
19	141-2-2629-09100	Bracket Button Right	1
20	141-2-2629-10200	Bracket Button Center	1
21	141-2-2629-10900	Bracket Support	2
22	141-2-3529-53200	Spacer	1
23	141-2-5649-04700	Belt Counter	1
24	141-2-6129-07500	Spindle Button	1
25	141-2-8119-15000	Counter	1
26	141-2-8549-33800	Spring Left	1
27	141-2-8549-33900	Spring Right	1
28	131-2-1801-16200	Leg	4
29	141-2-2449-46700	Sheet	1
30	141-2-3119-29500	Chassis Cabinet	1
31	141-2-3899-10300	Heyco Bushing	1
32	141-2-8539-60800	Spring Earth	1
33	⚠ 4-2312-05051	Power Switch [S8]	1
34	⚠ 4-2369-75920	Plug Cord Power	1
41	141-0-1939-17510	Amplifier P.C.B. Assy	1
42	141-0-1939-17520	LED Meter P.C.B. Assy	1
43	141-0-1939-17530	Volume P.C.B. Assy	1
51	101-3-1703-00818	Screw, Bind Hd., +M3.0x8	1
52	103-3-1203-01011	Screw, Flat Hd. Tapping-2, +M3.0x10	2
53	112-3-1303-00040	E Ring, M3.0	2
54	143-3-1303-02011	Screw, Pan Hd. Tapping-B, +M3.0x20	4
55	143-3-1303-03011	Screw, Pan Hd. Tapping-B, +M3.0x30	1
56	143-3-1703-00818	Screw, Bind Hd. Tapping-B, +M3.0x8	3
57	143-3-1702-60811	Screw, Bind Hd. Tapping-B, +M2.6x8	8
58	143-3-1903-00818	Screw, Brazier Hd. Tapping-B, +M3.0x8	3
59	143-3-1903-00811	Screw, Brazier Hd. Tapping-B, +M3.0x8	8
60	102-3-1703-01218	Screw, Bind Hd. Tapping-1, +M3.0x12	1
61	143-3-1903-01011	Screw, Brazier Hd. Tapping-B, +M3.0x10	4

NOTES:
1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

MECHANISM EXPLODED VIEW



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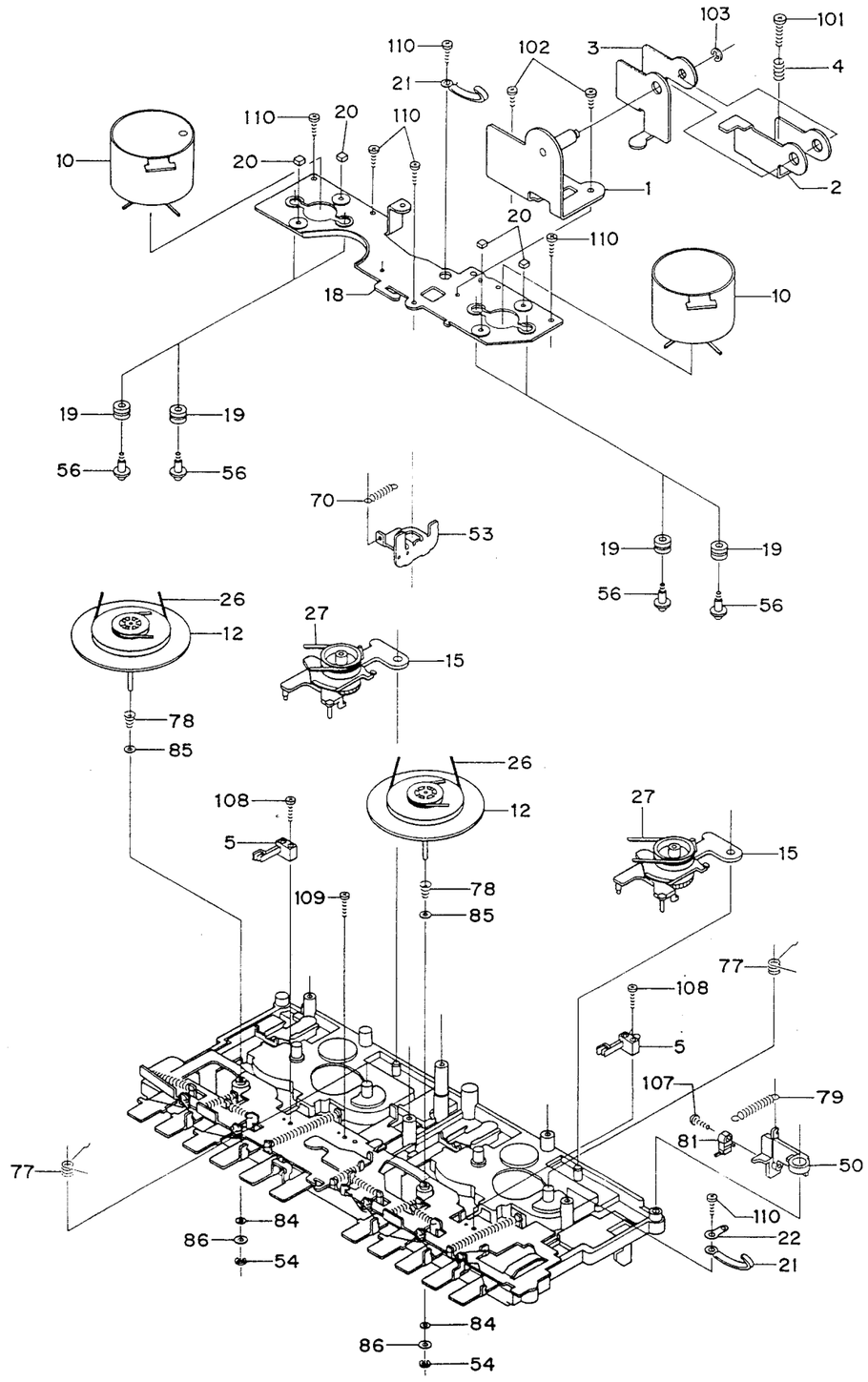
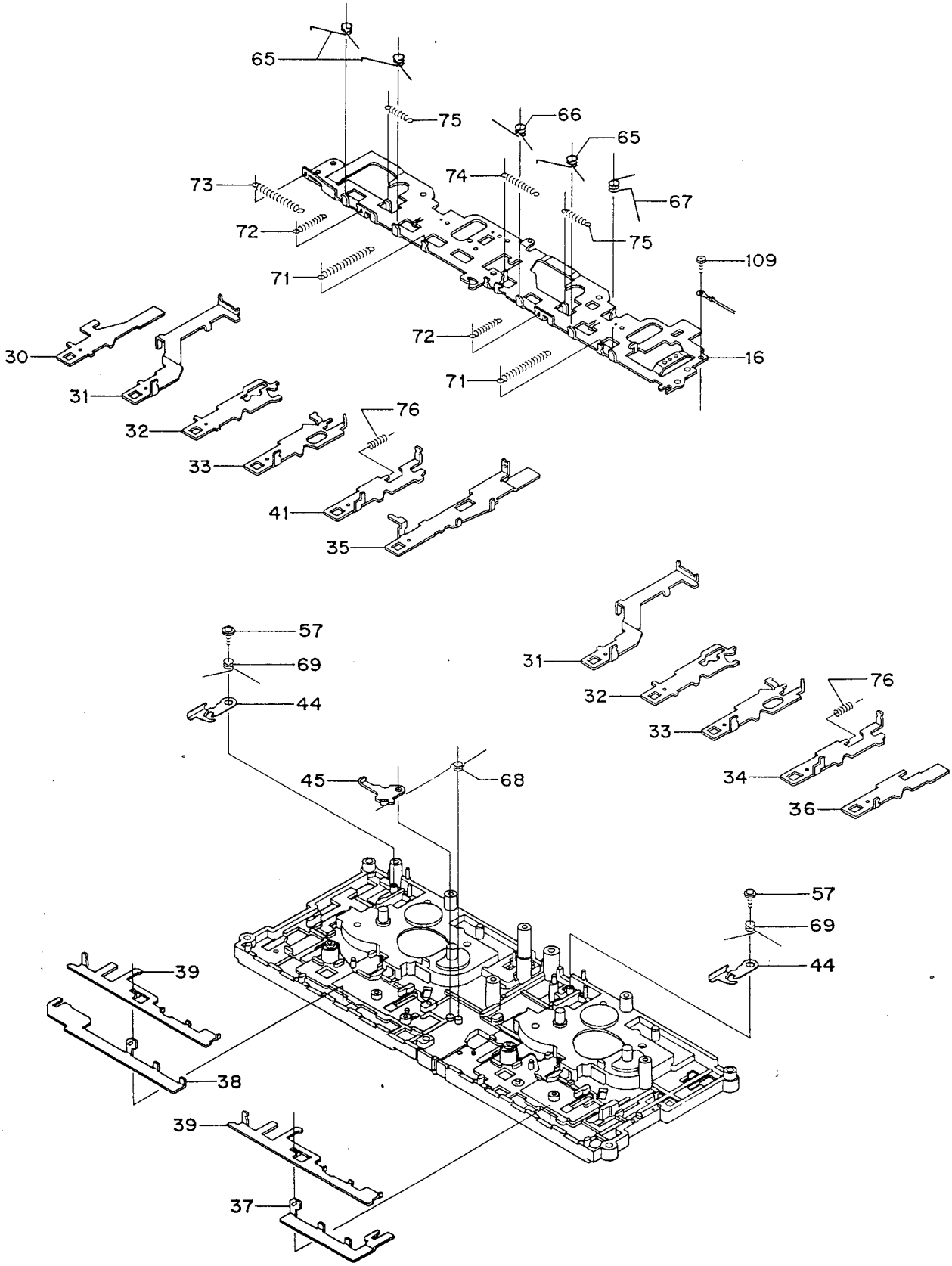


MECHANISM EXPLODED VIEW (Continued)



MECHANISM PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	MECHANISM		
	4-2359-70990	Socket Pin RT	5
	4-2379-70770	Ring Terminal 2.5	1
	4-2359-79891	Connector 2P Assy [CN1]	1
	4-2359-79834	Connector 3P Assy [CN2]	1
	4-2359-79477	Connector 6P Assy [CN3]	1
	4-2359-79866	Connector 4P Assy [CN4]	1
	4-2359-79867	Connector 4P Assy [CN5]	1
	4-2359-79835	Connector 3P Assy [CN6]	1
	4-2359-79836	Connector 3P Assy [CN7]	1
	4-2359-79837	Connector 3P Assy [CN8]	1
C325	CD1-0-6160-0001V	Electrolytic 10μF 16V	1
C326	CD1-0-6160-0001V	Electrolytic 10μF 16V	1
1	141-0-3519-26000	Bracket Record Assy	1
2	141-2-7439-54700	Arm Switch	1
3	141-2-8419-16800	Lever R/P Switch	1
4	141-2-8519-24400	Spring Adzimuth	1
5	4-2319-74360	Leaf Switch (Motor) [S5, S7]	2
6	4-2422-00190	Erase Head [HD3]	1
7	141-2-8219-36700	Guide Tape	1
8	4-2429-73060	Play Head [HD1]	1
9	4-2429-73170	Record/Play Head [HD2]	1
10	4-5279-71610	Motor [M1, M2]	2
11	141-0-3119-26300	Chassis Assy	1
12	141-0-5219-13200	Flywheel Complete	2
13	141-0-5319-09800	Fix Take-up Assy	2
14	141-0-5419-03201	Pinchroller Assy	2
15	141-0-5519-12800	Idler Assy	2
16	141-2-3519-77200	Bracket Rod	1
17	141-2-3529-18100	Spacer Head	2
18	141-2-3789-10900	Bracket Motor	1
19	141-2-4459-11800	Cushion Motor	4
20	141-2-4469-21300	Cushion	4
21	141-2-4729-04100	Lug	2
22	141-2-4729-09300	Lug	1
23	141-2-5319-17400	Fix Supply Reel	2
24	141-2-5519-65200	Gear Take-up	2
25	141-2-5519-65400	Gear F. FWD	2
26	141-2-5649-27100	Belt Drive	2
27	141-2-5649-27700	Belt Wind	2
28	141-2-7319-71100	Plate Lock Lid Left	1
29	141-2-7319-71200	Plate Lock Lid Right	1
30	141-2-7319-71400	Rod Stop Eject Right	1
31	141-2-7319-71500	Rod Pause	2
32	141-2-7319-71600	Rod F. FWD	2
33	141-2-7319-71700	Rod Rewind	2
34	141-2-7319-71800	Rod Play	1
35	141-2-7319-71900	Rod Record	1
36	141-2-7319-72200	Rod Stop Eject Left	1
37	141-2-7319-72400	Plate SW Motor Left	1
38	141-2-7319-72500	Plate SW Motor Right	1
39	141-2-7319-72600	Plate Lock	2
40	141-2-7319-72800	Base Slide	2
41	141-2-7319-77200	Rod Play	1
42	141-2-7319-82100	Plate Switch	2
43	141-2-7419-98500	Lever Sensor ASO	2
44	141-2-7419-99400	Lutch Pause	2
45	141-2-7419-99600	Lever Stopper REC	1
46	141-2-7419-99700	Lever Cassette Fix Left	1
47	141-2-7419-99800	Lever Cassette Fix Right	1
48	141-2-7429-00200	Lever ASO	2
49	141-2-7429-00300	Lever Cue Review	2
50	141-2-7429-03800	Lever Switch	1
51	141-2-7439-49200	Arm Take-up	2
52	141-2-8419-11700	Interlock Lever	1
53	141-2-8429-07900	Lever R/P Switch	1
54	141-2-4579-04400	E Ring	2
55	141-2-4219-05400	Screw Washer	2
56	141-2-4219-30100	Screw	4
57	141-2-4219-13201	Screw Washer	2
58	141-2-8559-15200	Spring Reel	2
59	141-2-8559-15400	Spring Supply	2
60	141-2-8529-30600	Spring Cassette Lock Right	1
61	141-2-8529-30700	Spring Cassette Lock Left	1
62	141-2-8529-30300	Spring Pinch Roller	2
63	141-2-8529-32400	Spring Take-up	2
64	141-2-8559-14900	Spring Head	2
65	141-2-8529-30200	Spring Rod	3
66	141-2-8529-30100	Spring Rod Pause	1
67	141-2-8529-30900	Spring Rod Stop	1
68	141-2-8529-36600	Spring Stopper REC	1
69	141-2-8529-30400	Spring Pause Lutch	2
70	141-2-8519-78601	Spring Slide Base	1
71	141-2-8549-33700	Spring Rod Base	2
72	141-2-8549-34800	Spring Lever ASO	2
73	141-2-8519-38700	Spring Lever Head	1
74	141-2-8519-03600	Spring Shut Off Lever	1
75	141-2-8549-37400	Spring Plate Motor	2
76	141-2-8559-14300	Spring Base Slide	2
77	141-2-8529-32300	Spring Arm Idler	2
78	141-2-8559-04700	Spring Pulley	2
79	141-2-8549-01000	Spring Plate REC	1
80	4-2319-79550	Detector Switch (Muting) [S4, S6]	2
81	4-2319-79550	Detector Switch (Tape Select) [S3]	1
82	141-2-4539-27601	Washer	4
83	141-2-4539-15700	Washer	4
84	141-2-4539-27603	Washer	2
85	141-2-4539-35500	Washer	2
86	141-2-4539-19800	Washer	2
101	101-3-1703-01211	Screw, Bind Hd., +M3.0x12	1
102	103-3-1702-60511	Screw, Bind Hd. Tapping-2, +M2.6x5	2
103	112-3-1302-50040	E Ring, M2.5	1
104	112-3-1302-00012	E Ring, M2.0	2
105	101-3-1702-00711	Screw, Bind Hd., +M2.0x7	2
106	101-3-1702-00511	Screw, Bind Hd., +M2.0x5	4
107	143-3-1302-00718	Screw, Pan Hd. Tapping-B, +M2.0x7	3
108	143-3-1702-01211	Screw, Bind Hd. Tapping-B, +M2.0x12	2
109	143-3-1702-00611	Screw, Bind Hd. Tapping-B, +M2.0x6	2
110	143-3-1702-60811	Screw, Bind Hd. Tapping-B, +M2.6x8	6

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

CASSETTE DECK ELECTRICAL ADJUSTMENTS

BEFORE ADJUSTMENT

If the tape surface whitch contacts the head, the capstan, and the pinch roller, etc., is stained, it will cause unstable running of the tape, wow and flutter, imperfect recording and erasing, deterioration of tonal quality, and the tape jam around the capstan, etc. Occasionally clean each part as follows;

1. Cut off power.
2. Open the cassette lid.
3. Wipe the head, the capstan, and the pinch roller wiht a cotton swab. If they are excessively stained, clean them with the swab soaked in absolute alcohol or cleaning liquid on the market.

MEASURING INSTRUMENTS REQUIRED

- Dualtrace Oscilloscope
- AC VTVM (AC voltmeter with high impedance)
- Dummy Load (47kΩ)
- Frequency Counter
- Signal Oscillator
- Test Tapes
  - ‡ 10kHz Test Tape (Example: TEAC MTT-114) for Azimuth Adjustment
  - ‡ 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
  - ‡ 1.5kHz Test Tape (Example: A.BEX TCW-211) for Tape Speed Adjustment
  - ‡ Test Taped (Example: TEAC MTT-150) for Playback sensitivity Adjustment
- Test Tapes for Recording and Playback Operations
  - ‡ Normal Tape (Example: TDK AC 223)

SWITCH POSITIONS

Unless especially indicated, set each switch as follows;

SYNCHRO START Switch ..... SEQ. PLAY
DUBBING SPEED Switch ..... NORMAL
DOLBY NR Switch ..... OFF
TAPE SPEED Switch ..... NORMAL

NORMAL TAPE SPEED ADJUSTMENT

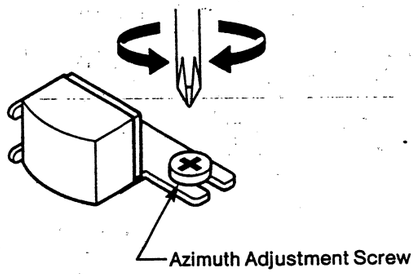
1. Connect the dummy load (47kΩ) and the frequency counter to the LINE OUT terminal L.
2. Load Deck 1 with a test tape (Example: TEAC MTT-111) and set it in the playback mode.
3. Adjust the potentiometer inside the capstan drive motor, so that the output becomes 3000Hz ±10Hz.
4. Perform the same adjustment for Deck 2.

HIGH SPEED TAPE SPEED ADJUSTMENT

1. Connect the dummy load (47kΩ) and the frequency counter to the LINE OUT terminal L.
2. Short-circuit TP1 and TP2 with the resister 6.8kΩ.
3. Load Deck 2 with a test tape (Example: A.BEX TCW-211) and set it in the playback mode.
4. Then observe the frequency (With in 3000 ±200Hz).
5. Load Deck 1 with the same test tape.
6. Adjust P301,so that the difference of Deck 2 frequency should become with in ±10Hz.

HEAD AZIMUTH ADJUSTMENT

1. Connect the dummy load (47kΩ) and the dualtrace oscilloscope to the LINE OUT terminals L and R.
2. Load Deck 1 with a test tape (Example: TEAC MTT-114) and set it in the playback mode.
3. Adjust the azimuth adjustment screw, so that the wave forms become maximum on the oscilloscope and the right wave form overlaps with the left one.
4. Perform the same adjustment for Deck 2.



CASSETTE DECK ELECTRICAL ADJUSTMENTS (Continued)

PLAYBACK SENSITIVITY ADJUSTMENT

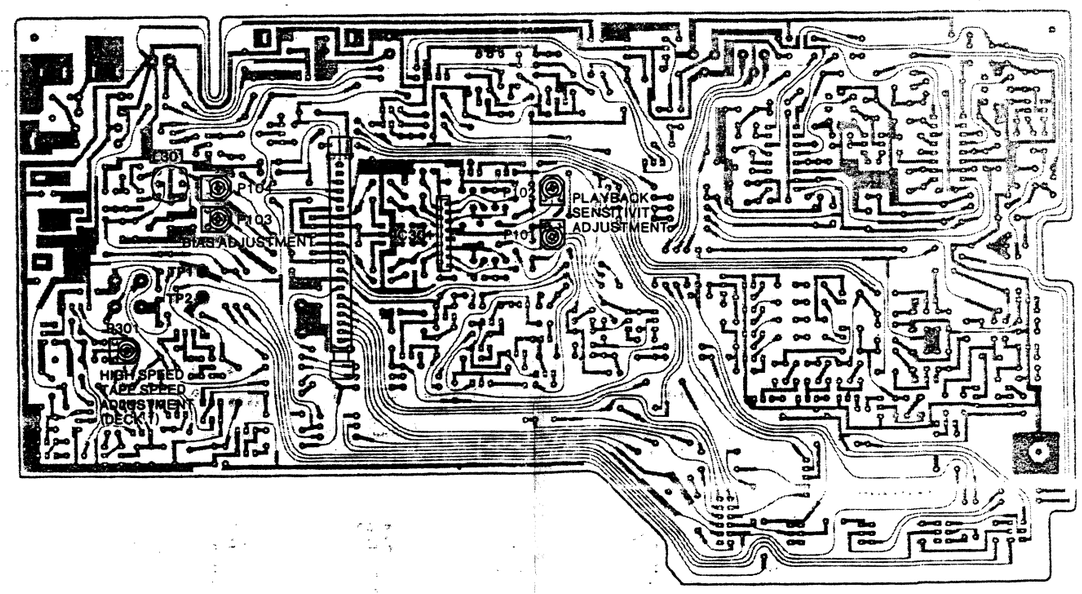
1. Conncet the dummy load (47kΩ) and AC VTVM to the LINE OUT terminal L.
2. Load Deck 2 with a test tape (Example: TEAC MTT-150) and set it in the playback mode.
3. Adjust P101, so that the output of LINE OUT becomes 500mV.
4. Connect AC VTVM to the LINE OUT terminal R and adjust P102, so that the output becomes 500mV.

BIAS ADJUSTMENT

1. Connect the low frequency oscillator to the L side of the LINE IN terminal, and the dummy load (47kΩ) and AC VTVM to the L side of the LINE OUT terminal.
2. Load Deck 2 with a normal tape (Example: TDK AC223) and set it in the recording mode.
3. Set the input level volume control to the maximum position and feed the signals of 1kHz and 12kHz at 7mV (–43dBs) from the frequency generator into the unit. Then, record the signals on the tape.
4. Play back the recorded signals adjust P103, so that the difference in output of the 1kHz and 12kHz signals become ±0.5dB.
5. Adjust P104 for the R side by following the same procedures as described for the L side.

AMPLIFIER P.C.BOARD ALIGNMENT POINTS

(TOP VIEW)



CASSETTE DECK ELECTRICAL ADJUSTMENTS

BEFORE ADJUSTMENT

If the tape surface whitch contacts the head, the capstan, and the pinch roller, etc., is stained, it will cause unstable running of the tape, wow and flutter, imperfect recording and erasing, deterioration of tonal quality, and the tape jam around the capstan, etc. Occasionally clean each part as follows;

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  - ‡ 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
  - ‡ 1.5kHz Test Tape (Example: A.BEX TCW-211) for Tape Speed Adjustment
  - ‡ Test Taped (Example: TEAC MTT-150) for Playback sensitivity Adjustment
- Test Tapes for Recording and Playback Operations
  - ‡ Normal Tape (Example: TDK AC 223)

SWITCH POSITIONS

Unless especially indicated, set each switch as follows;

SYNCHRO START Switch ..... SEQ. PLAY
DUBBING SPEED Switch ..... NORMAL
DOLBY NR Switch ..... OFF
TAPE SPEED Switch ..... NORMAL

NORMAL TAPE SPEED ADJUSTMENT

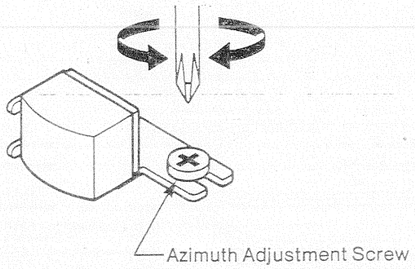
1. Connect the dummy load (47kΩ) and the frequency counter to the LINE OUT terminal L.
2. Load Deck 1 with a test tape (Example: TEAC MTT-111) and set it in the playback mode.
3. Adjust the potentiometer inside the capstan drive motor, so that the output becomes 3000Hz ±10Hz.
4. Perform the same adjustment for Deck 2.

HIGH SPEED TAPE SPEED ADJUSTMENT

1. Connect the dummy load (47kΩ) and the frequency counter to the LINE OUT terminal L.
2. Short-circuit TP1 and TP2 with the resister 6.8kΩ.
3. Load Deck 2 with a test tape (Example: A.BEX TCW-211) and set it in the playback mode.
4. Then observe the frequency (With in 3000 ±200Hz).
5. Load Deck 1 with the same test tape.
6. Adjust P301,so that the difference of Deck 2 frequency should become with in ±10Hz.

HEAD AZIMUTH ADJUSTMENT

1. Connect the dummy load (47kΩ) and the dualtrace oscilloscope to the LINE OUT terminals L and R.
2. Load Deck 1 with a test tape (Example: TEAC MTT-114) and set it in the playback mode.
3. Adjust the azimuth adjustment screw, so that the wave forms become maximum on the oscilloscope and the right wave form overlaps with the left one.
4. Perform the same adjustment for Deck 2.



CASSETTE DECK ELECTRICAL ADJUSTMENTS (Continued)

PLAYBACK SENSITIVITY ADJUSTMENT

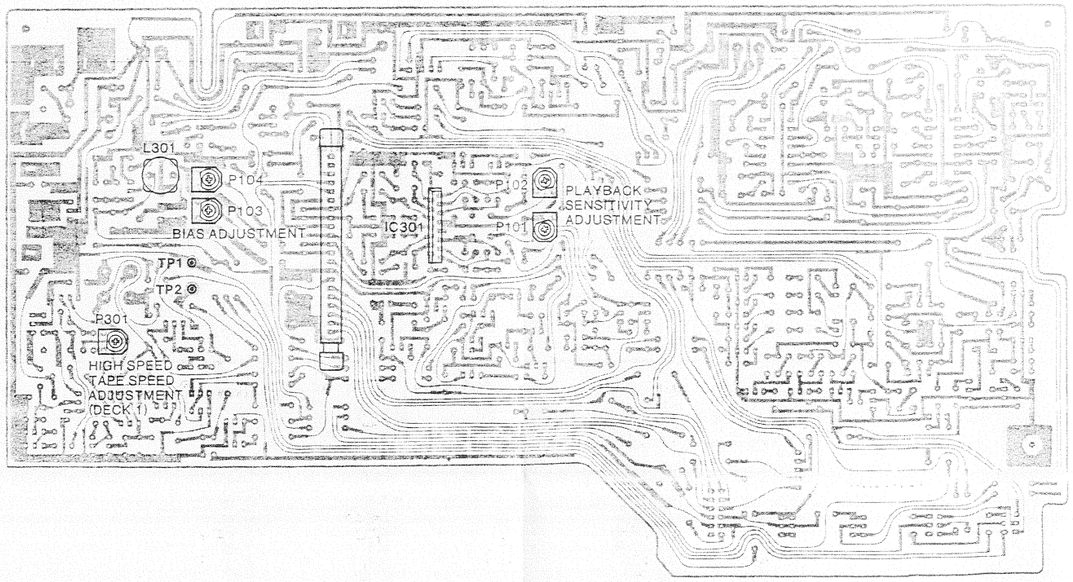
1. Conncet the dummy load (47kΩ) and AC VTVM to the LINE OUT terminal L.
2. Load Deck 2 with a test tape (Example: TEAC MTT-150) and set it in the playback mode.
3. Adjust P101, so that the output of LINE OUT becomes 500mV.
4. Connect AC VTVM to the LINE OUT terminal R and adjust P102, so that the output becomes 500mV.

BIAS ADJUSTMENT

1. Connect the low frequency oscillator to the L side of the LINE IN terminal, and the dummy load (47kΩ) and AC VTVM to the L side of the LINE OUT terminal.
2. Load Deck 2 with a normal tape (Example: TDK AC223) and set it in the recording mode.
3. Set the input level volume control to the maximum position and feed the signals of 1kHz and 12kHz at 7mV (–43dBs) from the frequency generator into the unit. Then, record the signals on the tape.
4. Play back the recorded signals adjust P103, so that the difference in output of the 1kHz and 12kHz signals become ±0.5dB.
5. Adjust P104 for the R side by following the same procedures as described for the L side.

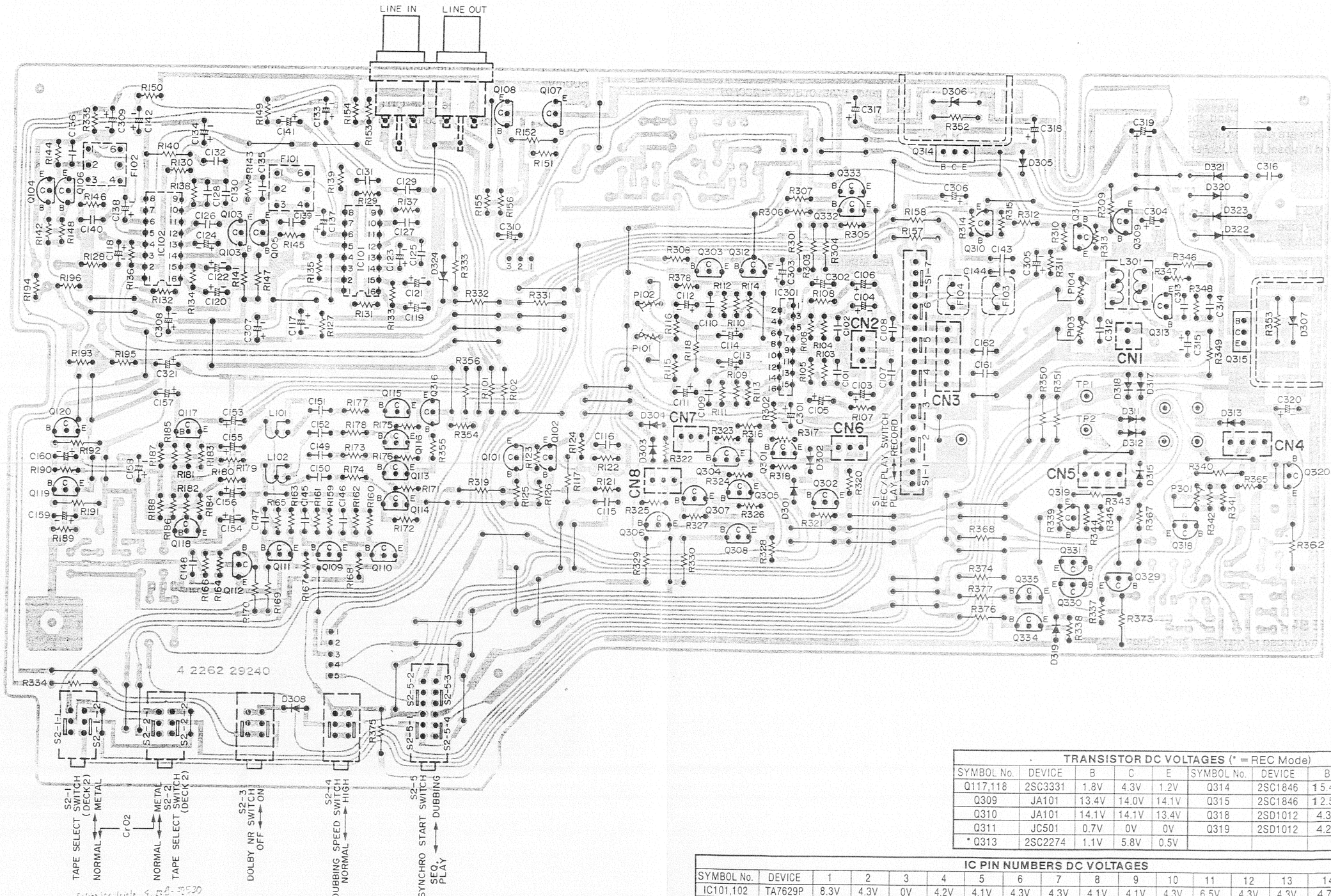
AMPLIFIER P.C.BOARD ALIGNMENT POINTS

(TOP VIEW)



AMPLIFIER P.C.BOARD

(BOTTOM VIEW)



TRANSISTOR DC VOLTAGES (* = REC Mode)

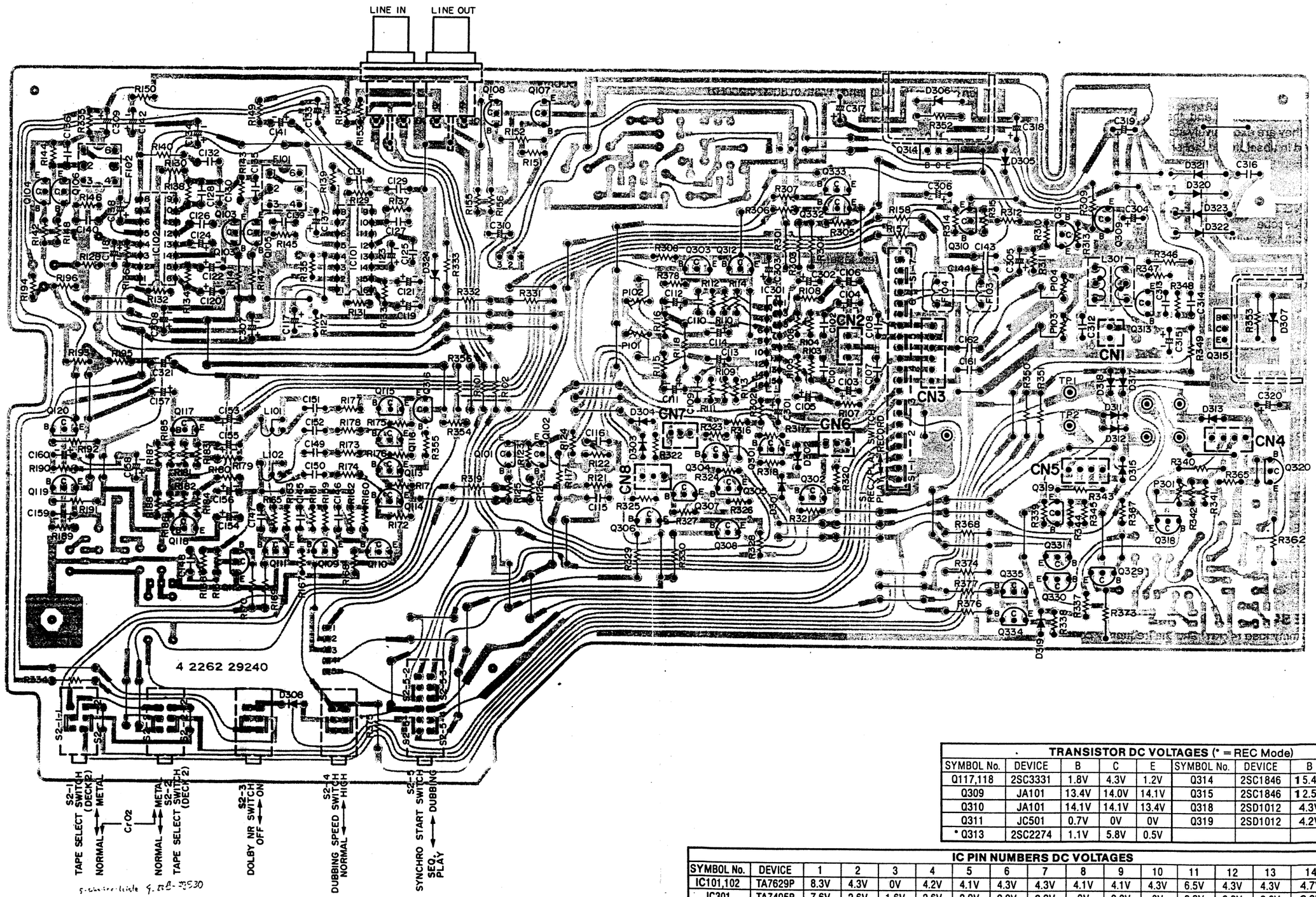
SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E
Q117,118	2SC3331	1.8V	4.3V	1.2V	Q314	2SC1846	15.4V	20.0V	14.7V
Q309	JA101	13.4V	14.0V	14.1V	Q315	2SC1846	12.5V	20.0V	11.9V
Q310	JA101	14.1V	14.1V	13.4V	Q318	2SD1012	4.3V	11.9V	11.9V
Q311	JC501	0.7V	0V	0V	Q319	2SD1012	4.2V	11.9V	11.9V
* Q313	2SC2274	1.1V	5.8V	0.5V					

IC PIN NUMBERS DC VOLTAGES

SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC101,102	TA7629P	8.3V	4.3V	0V	4.2V	4.1V	4.3V	4.3V	4.1V	4.1V	4.3V	6.5V	4.3V	4.3V	4.7V	4.6V	5.4V
IC301	TA7405P	7.6V	2.6V	1.6V	2.6V	2.9V	2.9V	2.9V	0V	2.9V	0V	2.9V	2.9V	2.9V	2.6V	0.5V	2.6V

AMPLIFIER P.C.BOARD

(BOTTOM VIEW)



TRANSISTOR DC VOLTAGES (* = REC Mode)

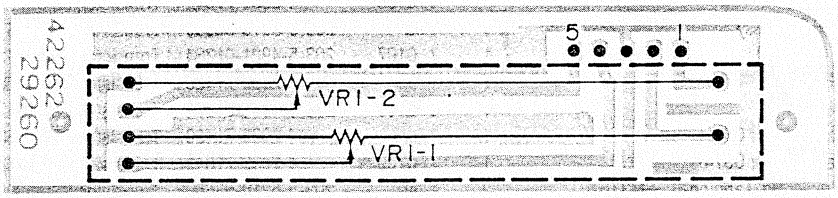
SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E
Q117,118	2SC3331	1.8V	4.3V	1.2V	Q314	2SC1846	15.4V	20.0V	14.7V
Q309	JA101	13.4V	14.0V	14.1V	Q315	2SC1846	12.5V	20.0V	11.9V
Q310	JA101	14.1V	14.1V	13.4V	Q318	2SD1012	4.3V	11.9V	11.9V
Q311	JC501	0.7V	0V	0V	Q319	2SD1012	4.2V	11.9V	11.9V
*Q313	2SC2274	1.1V	5.8V	0.5V					

IC PIN NUMBERS DC VOLTAGES

SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC101,102	TA7629P	8.3V	4.3V	0V	4.2V	4.1V	4.3V	4.3V	4.1V	4.1V	4.3V	6.5V	4.3V	4.3V	4.7V	4.6V	5.4V
IC301	TA7405P	7.6V	2.6V	1.6V	2.6V	2.9V	2.9V	2.9V	0V	2.9V	0V	2.9V	2.9V	2.9V	2.6V	0.5V	2.6V

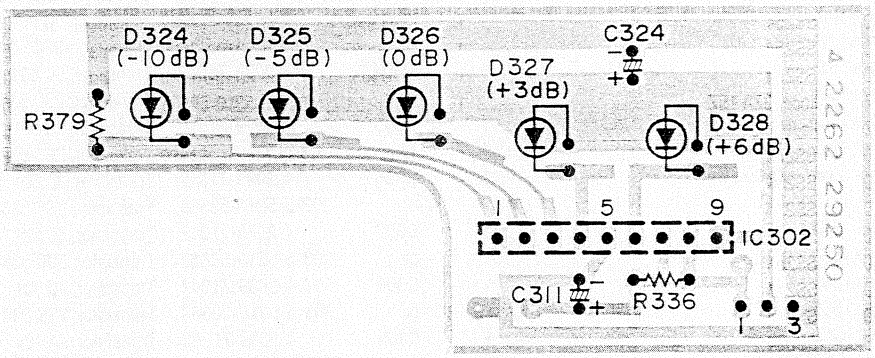
VOLUME P.C.BOARD

(BOTTOM VIEW)



LED METER P.C.BOARD

(BOTTOM VIEW)



IC PIN NUMBERS DC VOLTAGES										
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9
IC302	TA7366P	10.2V	10.5V	10.5V	10.5V	0V	10.5V	1.4V	1.4V	11.9V

P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	AMPLIFIER P.C.B. ASSY		
41	141-0-1939-17510	Amplifier P.C.B. Assy	1
	4-2352-01701	Pin Jack 4P (LINE)	1
	4-2369-73780	RT Pin 1P	7
	4-2372-00830	EC Terminal 1P	1
	131-2-6201-28000	Plate Heat Sink (for Q315)	1
	131-2-6201-21500	Plate Heat Sink (for Q314)	1
	143-3-1903-00811	Screw, Brazier Hd. Tapping-B, +M3.0x8	2
CN1	4-2362-00770	Plug 2P	1
CN2	4-2369-73130	Plug 3P	1
CN3	4-2369-73160	Plug 6P	1
CN4	4-2369-73140	Plug 4P	1
CN5	4-2369-73140	Plug 4P	1
CN6	4-2369-71482	Plug 3P	1
CN7	4-2369-71482	Plug 3P	1
CN8	4-2369-71482	Plug 3P	1
F101	4-2729-70990	Dolby Filter	1
F102	4-2729-70990	Dolby Filter	1
F103	4-2529-70270	Bias Trap	1
F104	4-2529-70270	Bias Trap	1
S1	4-2319-79540	Slide Switch (Recoad / Play)	1
S2	4-2319-79530	Push Switch	1
L101	4-2559-70290	AF Coil	1
L102	4-2559-70290	AF Coil	1
L301	4-2589-72940	Bias OSC Coil	1
P101	4-2229-76566	Potentiometer (B-300Ω)	1
P102	4-2229-76566	Potentiometer (B-300Ω)	1
P103	4-2229-76560	Potentiometer (B-100kΩ)	1
P104	4-2229-76560	Potentiometer (B-100kΩ)	1
P301	4-2229-76565	Potentiometer (B-200Ω)	1
D301	4-2029-75300	Diode,1SS254	1
D302	4-2029-75300	Diode,1SS254	1
D303	4-2029-75300	Diode,1SS254	1
D304	4-2029-75300	Diode,1SS254	1
D305	4-2029-75300	Diode,1SS254	1
D306	202-5-3210-15013	Zener Diode, GZA 15Z	1
D307	202-5-3210-12013	Zener Diode, GZA 12Z	1
D308	4-2029-75300	Diode,1SS254	1
D311	4-2029-75300	Diode,1SS254	1
D312	4-2029-75300	Diode,1SS254	1
D313	4-2029-75300	Diode,1SS254	1
D315	4-2029-75300	Diode,1SS254	1
D317	4-2029-75300	Diode,1SS254	1
D318	4-2029-75300	Diode,1SS254	1
D319	4-2029-75300	Diode,1SS254	1
D320	4-2029-75450	Diode,1SR35	1
D321	4-2029-75450	Diode,1SR35	1
D322	4-2029-75450	Diode,1SR35	1
D323	4-2029-75450	Diode,1SR35	1
D324	202-5-3210-08212	Zener Diode, GZA8.2Y	1
IC101	4-2069-71410	IC, TA 7629 P	1
IC102	4-2069-71410	IC, TA 7629 P	1
IC301	4-2069-74360	IC,TA7405P	1
Q101	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q102	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q103	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q104	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q105	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q106	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q107	203-5-4921-01264	Transistor, 2SD 1012	1
or	4-2039-71420	Transistor, 2SD 1450	1
Q108	203-5-4921-01264	Transistor, 2SD 1012	1
or	4-2039-71420	Transistor, 2SD 1450	1
Q109	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q110	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q111	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q112	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q113	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q114	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q115	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q116	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q117	203-5-5083-33165	Transistor, 2SC 3331	1
Q118	203-5-5083-33165	Transistor, 2SC 3331	1
Q119	4-2039-70431	Transistor, 2SC 1815	1
Q120	4-2039-70431	Transistor, 2SC 1815	1
Q301	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q302	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q303	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q304	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q305	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q306	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q307	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q308	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q309	4-2039-71052	Transistor, JA 101	1
or	203-5-7200-60860	Transistor, 2SA 608	1
Q310	4-2039-71052	Transistor, JA 101	1
or	203-5-7200-60860	Transistor, 2SA 608	1
Q311	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q312	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q313	203-5-7252-27450	Transistor, 2SC 2274	1
Q314	4-2039-70600	Transistor, 2SC 1846	1
Q315	4-2039-70600	Transistor, 2SC 1846	1
Q316	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1
Q318	203-5-4921-01264	Transistor, 2SD 1012	1
Q319	203-5-4921-01264	Transistor, 2SD 1012	1
Q320	203-5-4921-01264	Transistor, 2SD 1012	1
or	4-2039-71420	Transistor, 2SD 1450	1
Q329	203-5-4921-01264	Transistor, 2SD 1012	1
or	4-2039-71420	Transistor, 2SD 1450	1
Q330	4-2039-71042	Transistor, JC 501	1
or	203-5-5210-53660	Transistor, 2SC 536	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description			Q'ty
Q331	4-2039-71042	Transistor, JC 501			1
or	203-5-5210-53660	Transistor, 2SC 536			1
Q332	4-2039-71042	Transistor, JC 501			1
Q333	4-2039-71042	Transistor, JC 501			1
Q334	4-2039-71042	Transistor, JC 501			1
or	203-5-5210-53660	Transistor, 2SC 536			1
Q335	4-2039-71042	Transistor, JC 501			1
or	203-5-5210-53660	Transistor, 2SC 536			1
C101	CC5-6-1500-KD00C	Ceramic	560pF	50V ±10%	1
C102	CC5-6-1500-KD00C	Ceramic	560pF	50V ±10%	1
C103	CD4-7-5250-0KB1V	Electrolytic	4.7μF	25V	1
C104	CD4-7-5250-0KB1V	Electrolytic	4.7μF	25V	1
C105	CD4-7-5250-0KB1V	Electrolytic	4.7μF	25V	1
C106	CD4-7-5250-0KB1V	Electrolytic	4.7μF	25V	1
C107	CC8-2-1500-KD00C	Ceramic	820pF	50V ±10%	1
C108	CC8-2-1500-KD00C	Ceramic	820pF	50V ±10%	1
C109	CM1-8-3500-K00SV	Mylar	0.018μF	50V ±10%	1
C110	CM1-8-3500-K00SV	Mylar	0.018μF	50V ±10%	1
C111	CD1-0-6160-0001V	Electrolytic	10μF	16V	1
C112	CD1-0-6160-0001V	Electrolytic	10μF	16V	1
C113	CD4-7-663A-0001V	Electrolytic	47μF	6.3V	1
C114	CD4-7-663A-0001V	Electrolytic	47μF	6.3V	1
C115	CM1-5-3500-K00SV	Mylar	0.015μF	50V ±10%	1
C116	CM1-5-3500-K00SV	Mylar	0.015μF	50V ±10%	1
C117	CD4-7-4500-0001V	Electrolytic	0.47μF	50V	1
C118	CD4-7-4500-0001V	Electrolytic	0.47μF	50V	1
C119	CD3-3-4500-0001V	Electrolytic	0.33μF	50V	1
C120	CD3-3-4500-0001V	Electrolytic	0.33μF	50V	1
C121	CD1-0-4500-0001V	Electrolytic	0.1μF	50V	1
C122	CD1-0-4500-0001V	Electrolytic	0.1μF	50V	1
C123	CD1-0-6160-0001V	Electrolytic	10μF	16V	1
C124	CD1-0-6160-0001V	Electrolytic	10μF	16V	1
C125	CM4-7-3500-K00SV	Mylar	0.047μF	50V ±10%	1
C126	CM4-7-3500-K00SV	Mylar	0.047μF	50V ±10%	1
C127	CM4-7-2500-K00SV	Mylar	0.0047μF	50V ±10%	1
C128	CM4-7-2500-K00SV	Mylar	0.0047μF	50V ±10%	1
C129	CM2-7-3500-K00SV	Mylar	0.027μF	50V ±10%	1
C130	CM2-7-3500-K00SV	Mylar	0.027μF	50V ±10%	1
C131	CM5-6-2500-K00SV	Mylar	0.0056μF	50V ±10%	1
C132	CM5-6-2500-K00SV	Mylar	0.0056μF	50V ±10%	1
C133	CD4-7-5250-0001V	Electrolytic	4.7μF	25V	1
C134	CD4-7-5250-0001V	Electrolytic	4.7μF	25V	1
C135	CC8-2-1500-KD00C	Ceramic	820pF	50V ±10%	1
C136	CC8-2-1500-KD00C	Ceramic	820pF	50V ±10%	1
C137	CD1-0-6160-0001V	Electrolytic	10μF	16V	1
C138	CD1-0-6160-0001V	Electrolytic	10μF	16V	1
C139	CM2-7-2500-K00SV	Mylar	0.0027μF	50V ±10%	1
C140	CM2-7-2500-K00SV	Mylar	0.0027μF	50V ±10%	1
C141	CD4-7-5250-0001V	Electrolytic	4.7μF	25V	1
C142	CD4-7-5250-0001V	Electrolytic	4.7μF	25V	1
C143	CC4-7-1500-KD00C	Ceramic	470pF	50V ±10%	1
C144	CC4-7-1500-KD00C	Ceramic	470pF	50V ±10%	1
C145	CM2-7-3500-K00SV	Mylar	0.027μF	50V ±10%	1
C146	CM2-7-3500-K00SV	Mylar	0.027μF	50V ±10%	1
C147	CM2-7-3500-K00SV	Mylar	0.027μF	50V ±10%	1
C148	CM2-7-3500-K00SV	Mylar	0.027μF	50V ±10%	1
C149	CM6-8-2500-K00SV	Mylar	0.0068μF	50V ±10%	1
C150	CM6-8-2500-K00SV	Mylar	0.0068μF	50V ±10%	1
C151	CM1-5-3500-K00SV	Mylar	0.015μF	50V ±10%	1
C152	CM1-5-3500-K00SV	Mylar	0.015μF	50V ±10%	1
C153	CD1-0-5500-0001V	Electrolytic	1μF	50V	1
C154	CD1-0-5500-0001V	Electrolytic	1μF	50V	1
C155	CD1-0-6160-0001V	Electrolytic	10μF	16V	1
C156	CD1-0-6160-0001V	Electrolytic	10μF	16V	1

Ref. No.	Part No.	Description			Q'ty
C157	CD4-7-4500-0001V	Electrolytic	0.47μF	50V	1
C158	CD4-7-4500-0001V	Electrolytic	0.47μF	50V	1
C159	CD1-0-5500-0001V	Electrolytic	1μF	50V	1
C160	CD1-0-5500-0001V	Electrolytic	1μF	50V	1
C161	CC1-0-1500-KD00C	Ceramic	100pF	50V ±10%	1
C162	CC1-0-1500-KD00C	Ceramic	100pF	50V ±10%	1
C301	CD1-0-6160-0001V	Electrolytic	10μF	16V	1
C302	CD4-7-5250-0001V	Electrolytic	4.7μF	25V	1
C303	CD1-0-7100-0006V	Electrolytic	100μF	10V	1
C304	CD2-2-7160-0006V	Electrolytic	220μF	16V	1
C305	CD4-7-6160-0001V	Electrolytic	47μF	16V	1
C306	CD4-7-2250-0001V	Electrolytic	4.7μF	25V	1
C307	CD4-7-7100-0006V	Electrolytic	470μF	10V	1
C308	CD2-2-7100-0001V	Electrolytic	220μF	10V	1
C309	CD2-2-6100-0001V	Electrolytic	22μF	10V	1
C310	CD1-0-4500-0001V	Electrolytic	0.1μF	50V	1
C312	CP1-2-3251-J000V	Polypropylen	0.012μF	250V ±5%	1
C313	CM2-2-3500-K00SV	Mylar	0.022μF	50V ±10%	1
C314	CC8-2-1500-KD00C	Ceramic	820pF	50V ±10%	1
C315	CD4-7-5250-0001V	Electrolytic	4.7μF	25V	1
C316	CC2-2-3500-ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C317	CD4-7-7160-0006V	Electrolytic	470μF	16V	1
C318	CD1-0-7160-0006V	Electrolytic	100μF	16V	1
C319	CD1-0-8250-0006V	Electrolytic	1000μF	25V	1
C320	CD4-7-6160-0001V	Electrolytic	47μF	16V	1
C321	CD4-7-6160-0001V	Electrolytic	47μF	16V	1
R101	401 021 4105	CARBON 56K JA 1/4W			1
R102	401 021 4105	CARBON 56K JA 1/4W			1
R103	401 024 7707	CARBON 100K JA 1/6W			1
R104	401 024 7707	CARBON 100K JA 1/6W			1
R105	401 024 7707	CARBON 100K JA 1/6W			1
R106	401 024 7707	CARBON 100K JA 1/6W			1
R107	401 024 7004	CARBON 1K JA 1/6W			1
R108	401 024 7004	CARBON 1K JA 1/6W			1
R109	401 027 8602	CARBON 8.2K JA 1/6W			1
R110	401 027 8602	CARBON 8.2K JA 1/6W			1
R111	401 027 5502	CARBON 6.8K JA 1/6W			1
R112	401 027 5502	CARBON 6.8K JA 1/6W			1
R113	401 025 4903	CARBON 180K JA 1/6W			1
R114	401 025 4903	CARBON 180K JA 1/6W			1
R115	401 024 7004	CARBON 1K JA 1/6W			1
R116	401 024 7004	CARBON 1K JA 1/6W			1
R117	401 016 3809	CARBON 2.2K JA 1/4W			1
R118	401 016 3809	CARBON 2.2K JA 1/4W			1
R121	401 025 7805	CARBON 2.2K JA 1/6W			1
R122	401 025 7805	CARBON 2.2K JA 1/6W			1
R123	401 025 8703	CARBON 220K JA 1/6W			1
R124	401 025 8703	CARBON 220K JA 1/6W			1
R125	401 025 8208	CARBON 22K JA 1/6W			1
R126	401 025 8208	CARBON 22K JA 1/6W			1
R127	401 024 7707	CARBON 100K JA 1/6W			1
R128	401 024 7707	CARBON 100K JA 1/6W			1
R129	401 026 4308	CARBON 3.3K JA 1/6W			1
R130	401 026 4308	CARBON 3.3K JA 1/6W			1
R131	401 025 2305	CARBON 150K JA 1/6W			1
R132	401 025 2305	CARBON 150K JA 1/6W			1
R133	401 026 1604	CARBON 270K JA 1/6W			1
R134	401 026 1604	CARBON 270K JA 1/6W			1
R135	401 024 7707	CARBON 100K JA 1/6W			1
R136	401 024 7707	CARBON 100K JA 1/6W			1
R137	401 027 0309	CARBON 47K JA 1/6W			1
R138	401 027 0309	CARBON 47K JA 1/6W			1
R139	401 025 3807	CARBON 180 JA 1/6W			1
R140	401 015 1608	CARBON 180 JA 1/4W			1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
R141	401 012 5708	CARBON 1K JA 1/4W	1
R142	401 024 7004	CARBON 1K JA 1/6W	1
R143	401 025 8703	CARBON 220K JA 1/6W	1
R144	401 025 8703	CARBON 220K JA 1/6W	1
R145	401 025 8703	CARBON 220K JA 1/6W	1
R146	401 025 8703	CARBON 220K JA 1/6W	1
R147	401 012 5708	CARBON 1K JA 1/4W	1
R148	401 024 7004	CARBON 1K JA 1/6W	1
R149	401 025 7805	CARBON 2.2K JA 1/6W	1
R150	401 025 7805	CARBON 2.2K JA 1/6W	1
R151	401 027 5502	CARBON 6.8K JA 1/6W	1
R152	401 022 3107	CARBON 6.8K JA 1/4W	1
R153	401 027 0309	CARBON 47K JA 1/6W	1
R154	401 027 0309	CARBON 47K JA 1/6W	1
R155	401 027 9005	CARBON 82K JA 1/6W	1
R156	401 027 9005	CARBON 82K JA 1/6W	1
R157	401 013 6407	CARBON 12K JA 1/4W	1
R158	401 013 6407	CARBON 12K JA 1/4W	1
R159	401 025 1605	CARBON 1.5K JA 1/6W	1
R160	401 025 1605	CARBON 1.5K JA 1/6W	1
R161	401 026 1000	CARBON 2.7K JA 1/6W	1
R162	401 026 1000	CARBON 2.7K JA 1/6W	1
R163	401 026 9907	CARBON 4.7K JA 1/6W	1
R164	401 026 9907	CARBON 4.7K JA 1/6W	1
R165	401 026 4308	CARBON 3.3K JA 1/6W	1
R166	401 026 4308	CARBON 3.3K JA 1/6W	1
R167	401 025 8208	CARBON 22K JA 1/6W	1
R168	401 025 8208	CARBON 22K JA 1/6W	1
R169	401 016 4806	CARBON 22K JA 1/4W	1
R170	401 016 4806	CARBON 22K JA 1/4W	1
R171	401 025 8208	CARBON 22K JA 1/6W	1
R172	401 025 8208	CARBON 22K JA 1/6W	1
R173	401 025 3807	CARBON 180 JA 1/6W	1
R174	401 025 3807	CARBON 180 JA 1/6W	1
R175	401 024 7004	CARBON 1K JA 1/6W	1
R176	401 024 7004	CARBON 1K JA 1/6W	1
R177	401 026 3905	CARBON 330 JA 1/6W	1
R178	401 026 3905	CARBON 330 JA 1/6W	1
R179	401 025 8703	CARBON 220K JA 1/6W	1
R180	401 025 8703	CARBON 220K JA 1/6W	1
R181	401 024 7400	CARBON 10K JA 1/6W	1
R182	401 024 7400	CARBON 10K JA 1/6W	1
R183	401 024 9305	CARBON 1.2K JA 1/6W	1
R184	401 024 9305	CARBON 1.2K JA 1/6W	1
R185	401 025 8703	CARBON 220K JA 1/6W	1
R186	401 025 8703	CARBON 220K JA 1/6W	1
R187	401 026 4605	CARBON 33K JA 1/6W	1
R188	401 026 4605	CARBON 33K JA 1/6W	1
R189	401 025 7805	CARBON 2.2K JA 1/6W	1
R190	401 025 7805	CARBON 2.2K JA 1/6W	1
R191	401 023 2802	CARBON 8.2K JA 1/4W	1
R192	401 023 2802	CARBON 8.2K JA 1/4W	1
R193	401 026 9907	CARBON 4.7K JA 1/6W	1
R194	401 026 9907	CARBON 4.7K JA 1/6W	1
R195	401 027 8602	CARBON 8.2K JA 1/6W	1
R196	401 027 8602	CARBON 8.2K JA 1/6W	1
R301	401 014 4105	CARBON 1.5K JA 1/4W	1
R302	401 024 7707	CARBON 100K JA 1/6W	1
R303	401 012 8105	CARBON 100K JA 1/4W	1
R304	401 017 2801	CARBON 27K JA 1/4W	1
R305	401 025 8703	CARBON 220K JA 1/6W	1
R306	401 025 8208	CARBON 22K JA 1/6W	1
R307	401 025 8208	CARBON 22K JA 1/6W	1
R308	401 025 8208	CARBON 22K JA 1/6W	1

Ref. No.	Part No.	Description	Q'ty
R309	401 020 2904	CARBON 47K JA 1/4W	1
R310	401 025 8208	CARBON 22K JA 1/6W	1
R311	401 025 8208	CARBON 22K JA 1/6W	1
R312	401 024 7400	CARBON 10K JA 1/6W	1
R313	401 025 8208	CARBON 22K JA 1/6W	1
R314	401 027 0309	CARBON 47K JA 1/6W	1
R315	401 025 8208	CARBON 22K JA 1/6W	1
R316	401 024 7707	CARBON 100K JA 1/6W	1
R317	401 027 0309	CARBON 47K JA 1/6W	1
R318	401 025 8208	CARBON 22K JA 1/6W	1
R319	401 016 4806	CARBON 22K JA 1/4W	1
R320	401 025 8208	CARBON 22K JA 1/6W	1
R321	401 025 8208	CARBON 22K JA 1/6W	1
R322	401 024 7004	CARBON 1K JA 1/6W	1
R323	401 024 7400	CARBON 10K JA 1/6W	1
R324	401 025 8208	CARBON 22K JA 1/6W	1
R325	401 025 8208	CARBON 22K JA 1/6W	1
R326	401 024 7004	CARBON 1K JA 1/6W	1
R327	401 024 7004	CARBON 1K JA 1/6W	1
R328	401 024 7400	CARBON 10K JA 1/6W	1
R329	401 016 4806	CARBON 22K JA 1/4W	1
R330	401 016 4806	CARBON 22K JA 1/4W	1
R331	401 022 0809	CARBON 68 JA 1/4W	1
R332	401 022 0809	CARBON 68 JA 1/4W	1
R333	401 020 2003	CARBON 4.7K JA 1/4W	1
R334	401 017 2801	CARBON 27K JA 1/4W	1
R335	401 024 7707	CARBON 100K JA 1/6W	1
R337	401 024 7400	CARBON 10K JA 1/6W	1
R338	401 025 8208	CARBON 22K JA 1/6W	1
R339	401 024 7400	CARBON 10K JA 1/6W	1
R340	4-2219-71431	LT Resistor 820 OHM	1
R341	401 027 8305	CARBON 820 JA 1/6W	1
R342	401 027 5007	CARBON 68 JA 1/6W	1
R343	4-2219-71431	LT Resistor 820 OHM	1
R344	401 025 1308	CARBON 150 JA 1/6W	1
R345	401 025 1605	CARBON 1.5K JA 1/6W	1
R346	401 014 1203	CARBON 15 JA 1/4W	1
R347	401 027 5007	CARBON 68 JA 1/6W	1
R348	401 024 7400	CARBON 10K JA 1/6W	1
R349	401 017 0807	CARBON 270 JA 1/4W	1
R350	401 014 1203	CARBON 15 JA 1/4W	1
R351	401 020 0801	CARBON 470 JA 1/4W	1
R352	401 021 1500	CARBON 560 JA 1/4W	1
R353	401 021 1500	CARBON 560 JA 1/4W	1
R354	401 027 2600	CARBON 5.6K JA 1/6W	1
R355	401 025 8208	CARBON 22K JA 1/6W	1
R356	401 018 2800	CARBON 330 JA 1/4W	1
R362	401 021 7106	CARBON 6.8 JA 1/4W	1
R365	401 026 4308	CARBON 3.3K JA 1/6W	1
R367	401 026 4308	CARBON 3.3K JA 1/6W	1
R368	401 016 3809	CARBON 2.2K JA 1/4W	1
R373	401 021 7106	CARBON 6.8 JA 1/4W	1
R374	401 012 7009	CARBON 10K JA 1/4W	1
R375	401 022 3107	CARBON 6.8K JA 1/4W	1
R376	401 016 3809	CARBON 2.2K JA 1/4W	1
R377	401 016 4806	CARBON 22K JA 1/4W	1
R378	401 025 8208	CARBON 22K JA 1/6W	1

LED METER P.C.B. ASSY

42	141-0-1939-17520	LED Meter P.C.B. Assy	1
	131-2-9800-01849	Jumper	1
D324	4-2029-75460	LED, SLB 74 VR 3 (–1 OdB)	1
D325	4-2029-75460	LED, SLB 74 VR 3 (–5 dB)	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description			Q'ty
D326	4-2029-75460	LED, SLB 74 VR 3 (0dB)			1
D327	4-2029-75460	LED, SLB 74 VR 3 (+3dB)			1
D328	4-2029-75460	LED, SLB 74 VR 3 (+6dB)			1
IC302	4-2069-74370	IC,TA7366P			1
C311	CD1-0-5500-0002V	Electrolytic	1μF	50V	1
C324	CD1-0-6160-0002V	Electrolytic	10μF	16V	1
R336	401 027 0309	CARBON 47K JA 1/6W			1
R379	401 026 9907	CARBON 4.7K JA 1/6W			1
	VOLUME P.C.B. ASSY				
43	141-0-1939-17530	Volume P.C.B. Assy			1
	4-2439-72742	Wire 5 Parallel			1
VR1	4-2229-75650	Slide Volume (A-50kΩ)			1

NOTES:
1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

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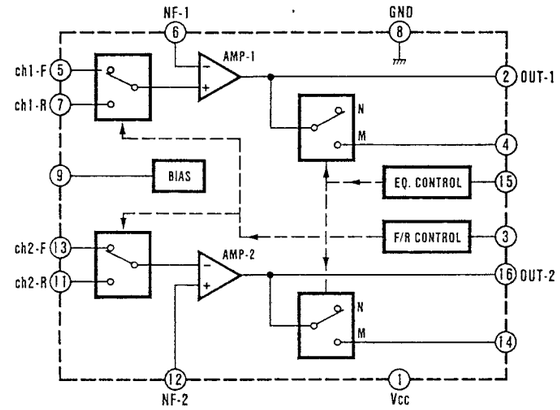
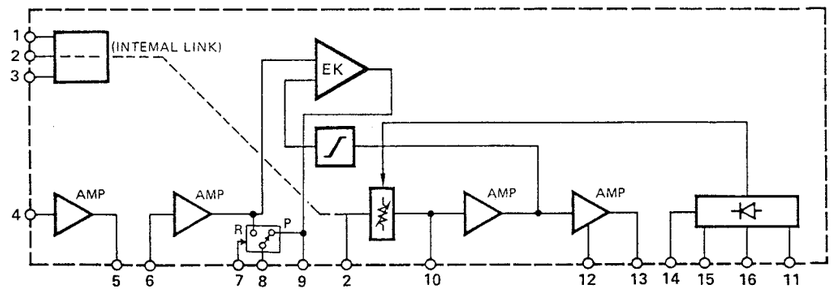
IC BLOCK DIAGRAM

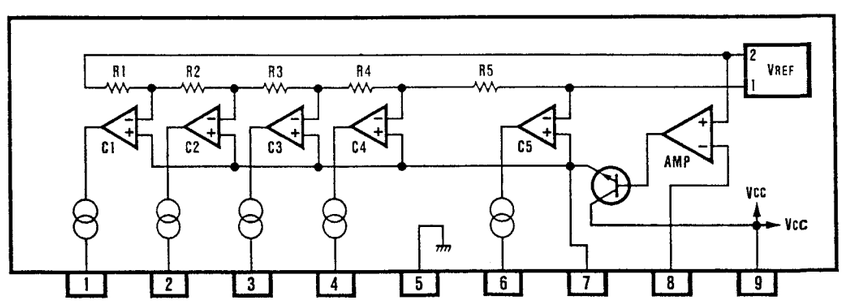
AF AMP IC TA 7405 P



DOLBY IC TA 7629 P

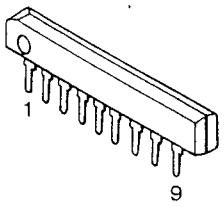


METER IC TA 7366 P

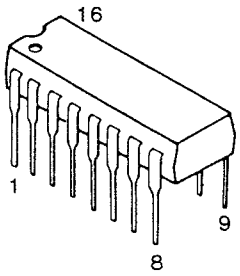


SEMICONDUCTOR LEAD IDENTIFICATION

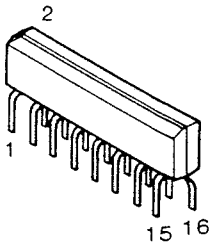
INTEGRATED CIRCUITS



- TA 7366 P

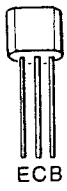


- TA 7629 P

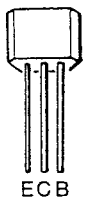


- TA 7405 P

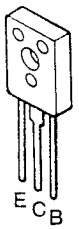
BI-POLAR TRANSISTORS



- JA 101
- JC 501
- 2SA 608
- 2SC 536
- 2SC 1815
- 2SC 2274
- 2SC 3331



- 2SD 1012



- 2SC 1846

DIODES

- 1SS 254
- 1SR 35
- GZA 8.2 Y
- GZA 12 Z
- GZA 15 Z

SCHEMATIC DIAGRAM

Signal flow of **PLAY**
Signal flow of **RECORD**

No.	Name	Position	No.	Name	Position
S1	Record / Play Switch	PLAY	S3	Tape Select Switch (Deck 1)	OFF
S2-1	Tape Select Switch (Deck 2)	NORMAL	S4	Muting Switch (Deck 1)	OFF
S2-2	Tape Select Switch (Deck 2)	NORMAL	S5	Motor Switch (Deck 1)	OFF
S2-3	DOLBY NR Switch	OFF	S6	Muting Switch (Deck 2)	OFF
S2-4	Dubbing Speed Switch	NORMAL	S7	Motor Switch (Deck 2)	OFF
S2-5	Synchro Start Switch	SEQ. PLAY	S8	Power Switch	OFF

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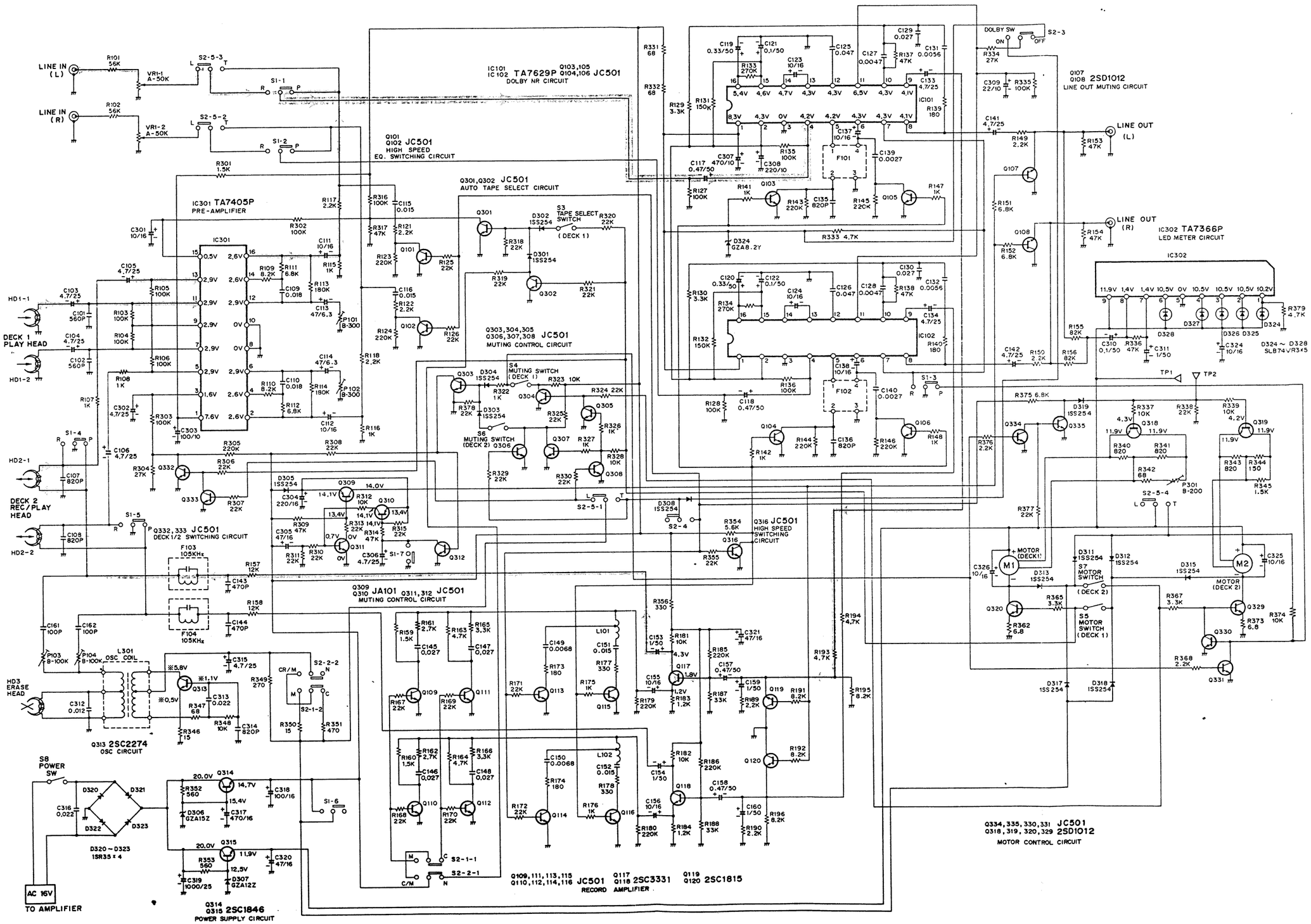
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

NOTES:
1. All resistors values are indicated in "ohm" ($K=10^3$, $M=10^6$).
2. All capacitors values are indicated in "μF" ($P=10^{-12}$).
3. All voltages indicated on the schematics are measured under the following conditions.
   a. Use a V.T.V.M.
   b. All voltages ±10 % with respect to chassis ground
   c. No signals at input terminals
   d. AC input at 16 volts 50 Hz
4. This is a basic schematic diagram.

Because Fisher products are subject to continuous improvement, Fisher Corporation reserves the right to make any changes or modifications without notice.

SCHEMATIC DIAGRAM (Continued)



POINT TO POINT WIRING DIAGRAM